RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/717,244A
Source: TFW16
Date Processed by STIC: 10/12/2006

ENTERED

IFW16

RAW SEQUENCE LISTING DATE: 10/12/2006
PATENT APPLICATION: **US/10/717,244A** TIME: 14:55:18

Input Set : **A:\PC27514A.seq.txt**
Output Set: **N:\CRF4\10122006\J717244A.raw**

(pg-6)

<110> APPLICANT: Sharma, Satish Kumar
Rank, Kenneth Bruce
<120> TITLE OF INVENTION: SOLUBLE NOTCH-BASED SUBSTRATES FOR GAMMA SECRETASE AND METHODS AND
COMPOSITIONS FOR USING SAME
<130> FILE REFERENCE: PC27514A
<140> CURRENT APPLICATION NUMBER: 10/717,244A
<141> CURRENT FILING DATE: 2003-11-19
<160> NUMBER OF SEQ ID NOS: 14
<170> SOFTWARE: PatentIn version 3.1
<210> SEQ ID NO: 1
<211> LENGTH: 2190
<212> TYPE: DNA
<213> ORGANISM: Artificial sequence
<220> FEATURE:
<223> OTHER INFORMATION: DNA encoding synthetic fusion of notch and nus
<400> SEQUENCE: 1

atgaacaaag aaattttggc tgtagttgaa gccgtatcca atgaaaaggc gctacctcgc 60
gagaagattt tcgaagcatt ggaaagcgcg ctggcgacag caacaaagaa aaaatatgaa 120
caagagatcg acgtccgcgt acagatcgat cgcaaaagcg gtgattttga cactttccgt 180
cgctggttag ttgttgatga agtcacccag ccgaccaagg aaatcaccct tgaagccgca 240
cgttatgaag atgaaagcct gaacctgggc gattacgttg aagatcagat tgagtctgtt 300
acctttgacc gtatcactac ccagacggca aaacaggtta tcgtgcagaa agtgcgtgaa 360
gccgaacgtg cgatggtggt tgatcagttc cgtgaacacg aaggtgaaat catcaccggc 420
gtggtgaaaa aagtaaaccg cgacaacatc tctctggatc tgggcaacaa cgctgaagcc 480
gtgatcctgc gcgaagatat gctgccgcgt gaaaacttcc gccctggcga ccgcgttcgt 540
ggcgtgctct attccgttcg cccggaagcg cgtggcgcgc aactgttcgt cactcgttcc 600
aagccggaaa tgctgatcga actgttccgt attgaagtgc cagaaatcgg cgaagaagtg 660
attgaaatta aagcagcggc tcgcgatccg ggttctcgtg cgaaaatcgc ggtgaaaacc 720
aacgataaac gtatcgatcc ggtaggtgct tgcgtaggta tgcgtggcgc gcgtgttcag 780
gcggtgtcta ctgaactggg tggcgagcgt atcgatatcg tcctgtggga tgataacccg 840
gcgcagttcg tgattaacgc aatggcaccg gcagacgttg cttctatcgt ggtggatgaa 900
gataaacaca ccatggacat cgccgttgaa gccggtaatc tggcgcaggc gattggccgt 960
aacggtcaga acgtgcgtct ggcttcgcaa ctgagcggtt gggaactcaa cgtgatgacc 1020
gttgacgacc tgcaagctaa gcatcaggcg gaagcgcacg cagcgatcga caccttcacc 1080
aaatatctcg acatcgacga agacttcgcg actgttctgg tagaagaagg cttctcgacg 1140
ctggaagaat tggcctatgt gccgatgaaa gagctgttgg aaatcgaagg ccttgatgag 1200
ccgaccgttg aagcactgcg cgagcgtgct aaaaatgcac tggccaccat tgcacaggcc 1260
caggaagaaa gcctcggtga taacaaaccg gctgacgatc tgctgaacct tgaaggggta 1320
gatcgtgatt tggcattcaa actggccgcc cgtggcgttt gtacgctgga agatctcgcc 1380
gaacagggca ttgatgatct ggctgatatc gaagggttga ccgacgaaaa agccggagca 1440
ctgattatgg ctgcccgtaa tatttgctgg ttcggtgacg aagcgactag tggttctggt 1500
catcaccatc accatcactc cgcgggtaaa gaaaccgctg ctgcgaaatt tgaacgccag 1560
cacatggact cgccaccgcc aactggtctg gtcccccggg gcagcgcggg ttctggtacg 1620

RAW SEQUENCE LISTING DATE: 10/12/2006
PATENT APPLICATION: **US/10/717,244A** TIME: 14:55:18

Input Set : **A:\PC27514A.seq.txt**
Output Set: **N:\CRF4\10122006\J717244A.raw**

84 attgatgacg acgacaagag tccgggagct cgtggatccg aattcaatat tccttacaag 1680
86 attgaggccg tgaagagtga gccggtggag cctccgctgc cctcgcagct gcacctcatg 1740
88 tacgtggcag cggccgcctt cgtgctcctg ttctttgtgg gctgtggggt gctgctgtcc 1800
90 cgcaagcgcc ggcggcagca tggccagctc tggttccctg agggtttcaa agtgtcagag 1860
92 gccagcaaga agaagcggag agagcccctc ggcgaggact cagtcggcct caagcccctg 1920
94 aagaatgcct cagatggtgc tctgatggac gacaatcaga acgagtgggg agacgaagac 1980
96 ctggagacca agaagttccg gtttgaggag ccagtagttc tccctgacct gagtgatcag 2040
98 actgaccaca gacagtggac ccagcagcac ctggacgctg ctgacctgcg catgtctgcc 2100
100 atggccccaa caccgcctca gggggaggtg gatgctgacg attataaaga cgatgacgat 2160
102 aaacaccatc accatcacca tcaccattga 2190
105 <210> SEQ ID NO: 2
106 <211> LENGTH: 729
107 <212> TYPE: PRT
108 <213> ORGANISM: Artificial sequence
110 <220> FEATURE:
111 <223> OTHER INFORMATION: Synthetic fusion protein sequence of notch and nus
113 <400> SEQUENCE: 2
115 Met Asn Lys Glu Ile Leu Ala Val Val Glu Ala Val Ser Asn Glu Lys
116 1 5 10 15
119 Ala Leu Pro Arg Glu Lys Ile Phe Glu Ala Leu Glu Ser Ala Leu Ala
120 20 25 30
123 Thr Ala Thr Lys Lys Lys Tyr Glu Gln Glu Ile Asp Val Arg Val Gln
124 35 40 45
127 Ile Asp Arg Lys Ser Gly Asp Phe Asp Thr Phe Arg Arg Trp Leu Val
128 50 55 60
131 Val Asp Glu Val Thr Gln Pro Thr Lys Glu Ile Thr Leu Glu Ala Ala
132 65 70 75 80
135 Arg Tyr Glu Asp Glu Ser Leu Asn Leu Gly Asp Tyr Val Glu Asp Gln
136 85 90 95
139 Ile Glu Ser Val Thr Phe Asp Arg Ile Thr Thr Gln Thr Ala Lys Gln
140 100 105 110
143 Val Ile Val Gln Lys Val Arg Glu Ala Glu Arg Ala Met Val Val Asp
144 115 120 125
147 Gln Phe Arg Glu His Glu Gly Glu Ile Ile Thr Gly Val Val Lys Lys
148 130 135 140
151 Val Asn Arg Asp Asn Ile Ser Leu Asp Leu Gly Asn Asn Ala Glu Ala
152 145 150 155 160
155 Val Ile Leu Arg Glu Asp Met Leu Pro Arg Glu Asn Phe Arg Pro Gly
156 165 170 175
159 Asp Arg Val Arg Gly Val Leu Tyr Ser Val Arg Pro Glu Ala Arg Gly
160 180 185 190
163 Ala Gln Leu Phe Val Thr Arg Ser Lys Pro Glu Met Leu Ile Glu Leu
164 195 200 205
167 Phe Arg Ile Glu Val Pro Glu Ile Gly Glu Glu Val Ile Glu Ile Lys
168 210 215 220
171 Ala Ala Ala Arg Asp Pro Gly Ser Arg Ala Lys Ile Ala Val Lys Thr
172 225 230 235 240
175 Asn Asp Lys Arg Ile Asp Pro Val Gly Ala Cys Val Gly Met Arg Gly
176 245 250 255

RAW SEQUENCE LISTING DATE: 10/12/2006
PATENT APPLICATION: **US/10/717,244A** TIME: 14:55:18

Input Set : **A:\PC27514A.seq.txt**
Output Set: **N:\CRF4\10122006\J717244A.raw**

```
179 Ala Arg Val Gln Ala Val Ser Thr Glu Leu Gly Gly Glu Arg Ile Asp
180             260                 265                 270
183 Ile Val Leu Trp Asp Asp Asn Pro Ala Gln Phe Val Ile Asn Ala Met
184         275                 280                 285
187 Ala Pro Ala Asp Val Ala Ser Ile Val Val Asp Glu Asp Lys His Thr
188     290                 295                 300
191 Met Asp Ile Ala Val Glu Ala Gly Asn Leu Ala Gln Ala Ile Gly Arg
192 305                 310                 315                 320
195 Asn Gly Gln Asn Val Arg Leu Ala Ser Gln Leu Ser Gly Trp Glu Leu
196                 325                 330                 335
199 Asn Val Met Thr Val Asp Asp Leu Gln Ala Lys His Gln Ala Glu Ala
200             340                 345                 350
203 His Ala Ala Ile Asp Thr Phe Thr Lys Tyr Leu Asp Ile Asp Glu Asp
204         355                 360                 365
207 Phe Ala Thr Val Leu Val Glu Glu Gly Phe Ser Thr Leu Glu Glu Leu
208     370                 375                 380
211 Ala Tyr Val Pro Met Lys Glu Leu Leu Glu Ile Glu Gly Leu Asp Glu
212 385                 390                 395                 400
215 Pro Thr Val Glu Ala Leu Arg Glu Arg Ala Lys Asn Ala Leu Ala Thr
216                 405                 410                 415
219 Ile Ala Gln Ala Gln Glu Glu Ser Leu Gly Asp Asn Lys Pro Ala Asp
220             420                 425                 430
223 Asp Leu Leu Asn Leu Glu Gly Val Asp Arg Asp Leu Ala Phe Lys Leu
224         435                 440                 445
227 Ala Ala Arg Gly Val Cys Thr Leu Glu Asp Leu Ala Glu Gln Gly Ile
228     450                 455                 460
231 Asp Asp Leu Ala Asp Ile Glu Gly Leu Thr Asp Glu Lys Ala Gly Ala
232 465                 470                 475                 480
235 Leu Ile Met Ala Ala Arg Asn Ile Cys Trp Phe Gly Asp Glu Ala Thr
236                 485                 490                 495
239 Ser Gly Ser Gly His His His His His His Ser Ala Gly Lys Glu Thr
240             500                 505                 510
243 Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser Pro Pro Pro Thr
244         515                 520                 525
247 Gly Leu Val Pro Arg Gly Ser Ala Gly Ser Gly Thr Ile Asp Asp Asp
248     530                 535                 540
251 Asp Lys Ser Pro Gly Ala Arg Gly Ser Glu Phe Asn Ile Pro Tyr Lys
252 545                 550                 555                 560
255 Ile Glu Ala Val Lys Ser Glu Pro Val Glu Pro Pro Leu Pro Ser Gln
256                 565                 570                 575
259 Leu His Leu Met Tyr Val Ala Ala Ala Ala Phe Val Leu Leu Phe Phe
260             580                 585                 590
263 Val Gly Cys Gly Val Leu Leu Ser Arg Lys Arg Arg Arg Gln His Gly
264         595                 600                 605
267 Gln Leu Trp Phe Pro Glu Gly Phe Lys Val Ser Glu Ala Ser Lys Lys
268     610                 615                 620
271 Lys Arg Arg Glu Pro Leu Gly Glu Asp Ser Val Gly Leu Lys Pro Leu
272 625                 630                 635                 640
275 Lys Asn Ala Ser Asp Gly Ala Leu Met Asp Asp Asn Gln Asn Glu Trp
```

RAW SEQUENCE LISTING DATE: 10/12/2006
PATENT APPLICATION: US/10/717,244A TIME: 14:55:18

Input Set : A:\PC27514A.seq.txt
Output Set: N:\CRF4\10122006\J717244A.raw

```
276                 645                 650                 655
279 Gly Asp Glu Asp Leu Glu Thr Lys Lys Phe Arg Phe Glu Glu Pro Val
280             660                 665                 670
283 Val Leu Pro Asp Leu Ser Asp Gln Thr Asp His Arg Gln Trp Thr Gln
284         675                 680                 685
287 Gln His Leu Asp Ala Ala Asp Leu Arg Met Ser Ala Met Ala Pro Thr
288     690                 695                 700
291 Pro Pro Gln Gly Glu Val Asp Ala Asp Asp Tyr Lys Asp Asp Asp Asp
292 705                 710                 715                 720
295 Lys His His His His His His His His
296                 725
299 <210> SEQ ID NO: 3
300 <211> LENGTH: 525
301 <212> TYPE: DNA
302 <213> ORGANISM: Artificial sequence
304 <220> FEATURE:
305 <223> OTHER INFORMATION: Wildtype notch DNA sequence
307 <400> SEQUENCE: 3
309 aatattcctt acaagattga ggccgtgaag agtgagccgg tggagcctcc gctgccctcg     60
311 cagctgcacc tcatgtacgt ggcagcggcc gccttcgtgc tcctgttctt tgtgggctgt    120
313 ggggtgctgc tgtcccgcaa gcgccggcgg cagcatggcc agctctggtt ccctgagggt    180
315 ttcaaagtgt cagaggccag caagaagaag cggagagagc ccctcggcga ggactcagtc    240
317 ggcctcaagc ccctgaagaa tgcctcagat ggtgctctga tggacgacaa tcagaacgag    300
319 tggggagacg aagacctgga gaccaagaag ttccggtttg aggagccagt agttctccct    360
321 gacctgagtg atcagactga ccacagacag tggacccagc agcacctgga cgctgctgac    420
323 ctgcgcatgt ctgccatggc cccaacaccg cctcaggggg aggtggatgc tgacgattat    480
325 aaagacgatg acgataaaca ccatcaccat caccatcacc attga                    525
328 <210> SEQ ID NO: 4
329 <211> LENGTH: 174
330 <212> TYPE: PRT
331 <213> ORGANISM: Artificial sequence
333 <220> FEATURE:
334 <223> OTHER INFORMATION: Wildtype notch protein sequence
336 <400> SEQUENCE: 4
338 Asn Ile Pro Tyr Lys Ile Glu Ala Val Lys Ser Glu Pro Val Glu Pro
339 1               5                   10                  15
342 Pro Leu Pro Ser Gln Leu His Leu Met Tyr Val Ala Ala Ala Ala Phe
343             20                  25                  30
346 Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser Arg Lys Arg
347         35                  40                  45
350 Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe Lys Val Ser
351     50                  55                  60
354 Glu Ala Ser Lys Lys Lys Arg Arg Glu Pro Leu Gly Glu Asp Ser Val
355 65                  70                  75                  80
358 Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu Met Asp Asp
359                 85                  90                  95
362 Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys Lys Phe Arg
363             100                 105                 110
366 Phe Glu Glu Pro Val Val Leu Pro Asp Leu Ser Asp Gln Thr Asp His
```

RAW SEQUENCE LISTING DATE: 10/12/2006
PATENT APPLICATION: US/10/717,244A TIME: 14:55:18

Input Set : A:\PC27514A.seq.txt
Output Set: N:\CRF4\10122006\J717244A.raw

```
367         115                 120                 125
370 Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu Arg Met Ser
371     130                 135                 140
374 Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Asp Tyr
375 145                 150                 155                 160
378 Lys Asp Asp Asp Asp Lys His His His His His His His His
379                 165                 170
382 <210> SEQ ID NO: 5
383 <211> LENGTH: 2531
384 <212> TYPE: PRT
385 <213> ORGANISM: Mus musculus
387 <400> SEQUENCE: 5
389 Met Pro Arg Leu Leu Thr Pro Leu Leu Cys Leu Thr Leu Leu Pro Ala
390 1               5                   10                  15
393 Arg Ala Ala Arg Gly Leu Arg Cys Ser Gln Pro Ser Gly Thr Cys Leu
394             20                  25                  30
397 Asn Gly Gly Arg Cys Glu Val Ala Ser Gly Thr Glu Ala Cys Val Ala
398         35                  40                  45
401 Ser Gly Ser Phe Val Gly Gln Arg Cys Gln Asp Pro Asn Pro Cys Leu
402     50                  55                  60
405 Ser Thr Arg Cys Lys Asn Ala Gly Thr Cys Tyr Val Val Asp His Gly
406 65                  70                  75                  80
409 Gly Ile Val Asp Tyr Ala Cys Ser Cys Pro Leu Gly Phe Ser Gly Pro
410                 85                  90                  95
413 Leu Cys Leu Thr Pro Leu Asp Lys Pro Cys Leu Ala Asn Pro Cys Arg
414             100                 105                 110
417 Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
418         115                 120                 125
421 Cys Ser Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
422     130                 135                 140
425 Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ser
426 145                 150                 155                 160
429 Ser Tyr Ile Cys Arg Cys Pro Pro Gly Phe His Gly Pro Thr Cys Arg
430                 165                 170                 175
433 Gln Asp Val Asn Glu Cys Ser Gln Asn Pro Gly Leu Cys Arg His Gly
434             180                 185                 190
437 Gly His Cys His Asn Glu Ile Gly Ser Tyr Arg Cys Ala Cys Cys Ala
438         195                 200                 205
441 Thr His Thr Gly Pro His Cys Glu Leu Pro Tyr Val Pro Cys Ser Pro
442     210                 215                 220
445 Ser Pro Cys Gln Asn Gly Ala Thr Cys Arg Pro Thr Gly Asp Thr Thr
446 225                 230                 235                 240
449 His Glu Cys Ala Cys Leu Pro Gly Phe Ala Gly Gln Asn Cys Glu Glu
450                 245                 250                 255
453 Asn Val Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
454             260                 265                 270
457 Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro Glu Val Thr
458         275                 280                 285
461 Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/12/2006
PATENT APPLICATION: **US/10/717,244A** TIME: 14:55:20

Input Set : **A:\PC27514A.seq.txt**
Output Set: **N:\CRF4\10122006\J717244A.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; Xaa Pos. 891,1763,1787

VERIFICATION SUMMARY DATE: 10/12/2006
PATENT APPLICATION: **US/10/717,244A** TIME: 14:55:20

Input Set : **A:\PC27514A.seq.txt**
Output Set: **N:\CRF4\10122006\J717244A.raw**

L:1293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:880
M:341 Repeated in SeqNo=6